PRIVASEE®
SMART GLASS
MASTER CATALOGUE

PRIVASEE® EVA LAMINATED PDLC SMART GLASS — SG-01 / LG-01

Master Catalogue · Brand and engineering reference

Smart Glass Systems · SG-01 (brand) = LG-01 (engineering) · 14.0 mm standard build

DOCUMENT CODE PVS-SGS-CAT-SMART-GLASS-MASTER-01 · Rev 2.1 DRAFT · 2026-05-09

INFO@PRIVASEEGROUP.COM **WWW.PRIVASEEGROUP.COM**

§A · PRODUCT FAMILY OVERVIEW

PRIVASEE® Smart Glass — one platform · two naming conventions · one acoustic variant

Brand-facing

SG-01

PRIVASEE® Smart Glass — the marketing name. Used in customer-facing literature, sales materials, residential proposals, hospitality decks, distributor packs.

Engineering reference

LG-01

Same physical product as SG-01. The LG (Laminated Glass) prefix is the engineering convention used by architects, MEP engineers, and structural consultants in tender drawings, CAD specs, and CSI architectural specifications.

Acoustic variant

LG-02

Acoustic-optimised build: asymmetric 8 + 6 mm tempered low-iron with acoustic-grade EVA (0.76 mm per side). For hospitality, recording studios, urban residential, boardrooms. See dedicated LG-02 Acoustic Detailed datasheet.

Build-up at a glance

Product	Glass build	EVA grade	Total nominal	Use case
SG-01 / LG-01 standard	6 + 6 mm symmetric tempered low-iron	PRIVASEE-specified 0.8 mm	14.0 mm	Default architectural · partition · interior / exterior
LG-02 acoustic	8 + 6 mm ASYMMETRIC tempered low-iron	Acoustic-grade 0.76 mm	15.92 mm	Acoustic separation · hospitality · studios · urban residential

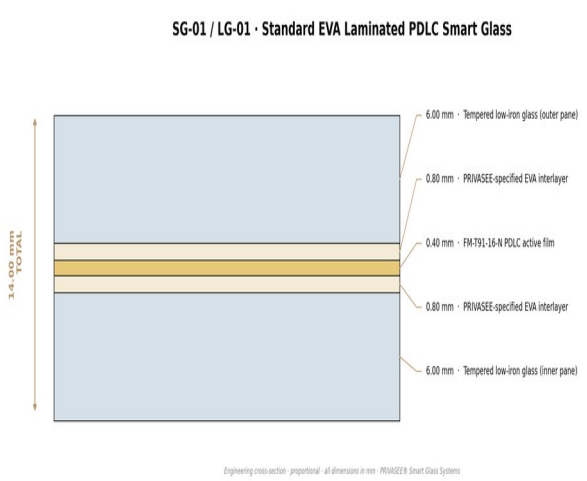
Companion documents

Document	Code	Purpose
Smart Glass Master Catalogue (this document)	PVS-SGS-CAT-SMART-GLASS-MASTER-01	SG-01 / LG-01 platform reference
LG-02 Acoustic Detailed Datasheet	PVS-SGS-DAT-LG-02	Acoustic variant deep-dive
Custom Configurations Visual Reference	PVS-SGS-CAT-CONFIGS-VR-01	Coloured · Printed · DGU · Skylight · Logo · Asymmetric · Jumbo
Power Drive Manuals	per family (PJ-D · PJ-C · DZD · LD-A · DZ6L · CZ)	Electrical drive specification
Smart Glass Install Manual	TEC-07	Site installation procedure

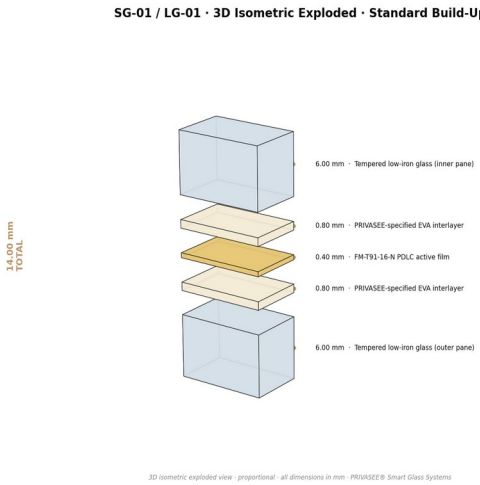
§B · LAYER COMPOSITION (Standard SG-01 / LG-01)

Layer	Material	Thickness	Function
Outer pane	Tempered low-iron glass	6.0 mm	Structural · weather-facing
Outer interlayer	PRIVASEE-specified EVA	0.8 mm	Bonding · impact safety
Active layer	FM-T91-16-N PDLC film	0.4 mm	Switchable opacity
Inner interlayer	PRIVASEE-specified EVA	0.8 mm	Bonding · impact safety
Inner pane	Tempered low-iron glass	6.0 mm	Structural · interior-facing
Sum (nominal)	—	14.0 mm	Per ISO 12543-5 ±0.5 mm
Sum (factory measured)	—	13.82 mm	EVA cure-compression ~0.18 mm

BUILD-UP CROSS-SECTION (2D engineering view)



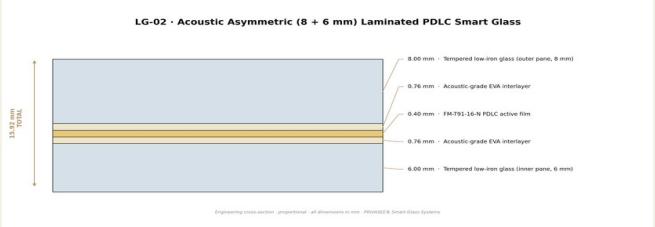
BUILD-UP 3D ISOMETRIC EXPLODED (XYZ view)

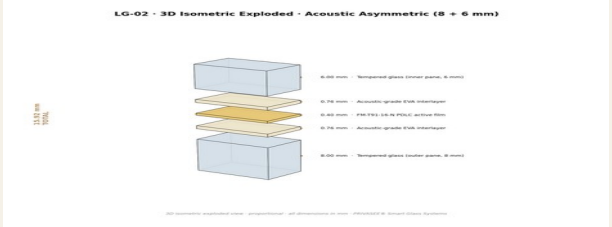


Per PRIVASEE® brand rule: every engineering drawing presented as 2D cross-section + 3D isometric XYZ view (locked 2026-05-09).

LG-02 ACOUSTIC ASYMMETRIC VARIANT — for reference

8 + 0.76 + 0.4 + 0.76 + 6 mm = 15.92 mm nominal · acoustic-grade EVA · asymmetric thickness breaks resonance modes





§C · FULL PERFORMANCE SPECIFICATION

C.1 · OPTICAL PERFORMANCE

Parameter	ON state	OFF state	Source
Visible light transmission (VLT)	≥ 75%	≥ 50%	PDLC component spec
Haze	≤ 5%	≥ 90%	PDLC component spec
UV transmission	< 1%	< 1%	Active layer
Viewing angle	> 140°	—	P-010
Colour rendering (CRI)	> 95	—	Low-iron substrate

C.2 · SWITCHING PERFORMANCE

Parameter	Value	Source
ON transition (privacy → clear)	< 100 ms	P-007
OFF transition (clear → privacy)	< 200 ms	P-008
Switching cycle life	100 000+ cycles	P-011 / LP-002
Service life (continuous ON)	> 80 000 hours	LP-002 verbatim

C.3 · POWER & ENERGY

Parameter	Value	Notes
Drive method	AC mains-switched	via PRIVASEE Power Drive (separate manual)
Power consumption (active)	4–8 W/m²	When ON
Standby consumption	0 W	Powered OFF = privacy state
Operating voltage (panel)	[INTERNAL]	See PRIVASEE Power Drive documentation

C.4 · THERMAL & ENVIRONMENTAL

Parameter	Value	Notes
Operating temperature	−20 °C to +60 °C	Active panel surface
Storage temperature	−20 °C to +70 °C	Long-term storage
Storage humidity	20–60% RH	Non-condensing
Service environment	Indoor, dry-edge install	Outdoor on engineering review

LP-002 (verbatim) · "Service life over 80,000 hours of continuous ON operation, no duty-cycle limitation imposed."

§C · FULL PERFORMANCE SPECIFICATION (continued)

C.5 · BUILD-UP TOLERANCE (ISO 12543-5)

Parameter	Value	Standard
Total build-up tolerance	±0.5 mm	ISO 12543-5
EVA cure-compression (total)	~0.18 mm	PRIVASEE-measured (~11% per EVA layer)
Glass thickness tolerance	Per BS EN 12150	Tempered glass standard
Edge finish tolerance	±0.5 mm polished	Default polished edge

C.6 · DEFECT TOLERANCE (audited under ISO 9001)

Defect type	Limit	Audit basis
Point defects > 3 mm	Not allowed	ISO 9001:2015 audit (cert 17420Q22138R1S)
Linear defects > 30 mm	Not allowed	ISO 12543-5 visual quality
Bubble inclusions	Not allowed in active area	Visual inspection per assembly
Edge chips < 2 mm	Allowable in concealed edge	Per EN 12150 tempered standard

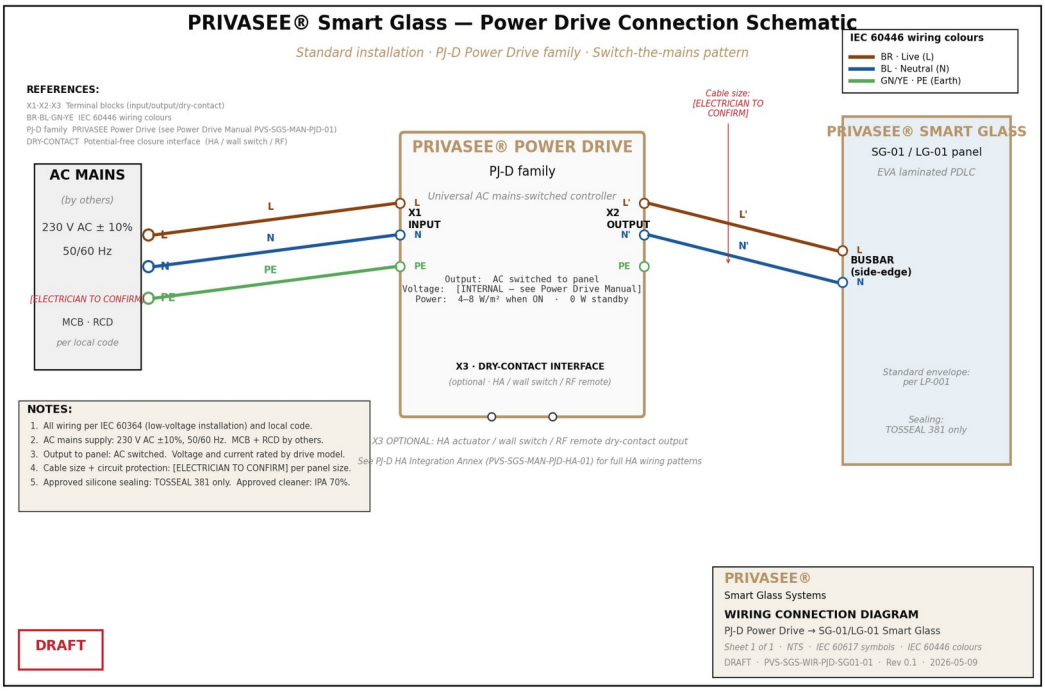
C.7 · EVA INTERLAYER SPECIFICATION (standard build)

Parameter	Value
EVA thickness per side	0.8 mm
Total EVA per assembly	1.6 mm
Material grade	PRIVASEE-specified EVA for PDLC
Lamination process	Vacuum lamination + 3-stage cure
Cure cycle reference	ENG-001 (CONFIDENTIAL)
Substrate compatibility	Low-iron tempered (default)

Acoustic variant: see LG-02 Acoustic Detailed datasheet (PVS-SGS-DAT-LG-02) for 0.76 mm acoustic-grade EVA + asymmetric build + per-configuration Rw calculation reference.

§C.5.1 · ELECTRICAL CONNECTION TO PRIVASEE POWER DRIVE

Standard installation · PJ-D Power Drive family · switch-the-mains pattern



PRIVASEE Power Drive family compatibility

Drive family	Application	Compatible with this product?
PJ-D	Standard AC mains-switched · single panel	✓ Default · this schematic applies
PJ-C	Compact form-factor · single panel	✓ Drop-in replacement · same wiring
DZD	Variable / dimming output · single panel	✓ Same input wiring · refer to DZD manual for dimming control
LD-A	Radar-sensor triggered · single panel	✓ Same input wiring · radar replaces dry-contact
DZ6L	6-channel · multi-panel zone control	✓ For Jumbo or multi-panel installs · refer to DZ6L manual
CZ	Vehicle / marine 12-24 V DC adapter · single panel	✓ DC input variant · refer to CZ manual

Installation notes

1. AC mains supply 230 V AC ±10%, 50/60 Hz · MCB + RCD by others per local code
2. Cable size + circuit protection: [ELECTRICIAN TO CONFIRM] per panel size and drive rating
3. X3 dry-contact interface: optional for HA / wall switch / RF remote — see PJ-D HA Integration Annex (PVS-SGS-MAN-PJD-HA-01)
4. Operating voltage on panel side: see PRIVASEE Power Drive Manual (PVS-SGS-MAN-PJD-01)
5. Sealing TOSSEAL 381 silicone only · cleaning IPA 70% Antiseptic-Disinfectant only
6. Wiring per IEC 60364 (low-voltage installation) · symbols per IEC 60617 · colours per IEC 60446

§D · COMPLIANCE & CERTIFICATIONS

D.1 · EN harmonised standards underlying CE conformity

Standard	Reference / certificate	Issuing body	Status
BS EN 14449	Compliance basis	BSI (UK)	Ongoing
CE marking	TTC-26-2703	TURKAK (Türkiye)	Valid
ISO 9001:2015	Cert 17420Q22138R1S	IAF accredited	Audit cycle ongoing
IATF 16949:2016	Cert DB00987	IATF Reg 0453312	Audit cycle ongoing
EN 12600	Class 1B1 typical	Per assembly	Pendulum impact
EN 12150	Conformance	Tempered glass standard	Per pane
ISO 12543-5	Tolerance basis	Laminated glass tolerance	Applied

D.2 · Independent third-party test reports

Test	Standard	Status	Provider
Pendulum impact (1B1)	EN 12600	Per project on commission	[NEEDS INPUT — UK lab]
Switching cycle endurance	PRIVASEE-internal	100,000+ cycles verified	PRIVASEE QA
UV transmission	Manufacturer data	<1% verified	PDLC component spec
Weathering	EN 1279 / accelerated	[NEEDS INPUT — pending]	[NEEDS INPUT]
Acoustic Rw	EN ISO 717-1 (LG-02 only)	Per project on commission	Partner labs UK + UAE

ISO 9001:2015
Quality management
Cert 17420Q22138R1S
IAF accredited · ongoing audit

IATF 16949:2016
Automotive-grade quality
Cert DB00987
IATF Reg 0453312 · ongoing audit

CE Marking
Construction product
TTC-26-2703
TURKAK · valid

All standards cited above are independently audited. Certificate documents available on request to tech-sales@privasee.uk.

§E · ARCHITECT SPEC · QUOTATION · LEAD-TIME · WARRANTY

Architect specification call-out (copy verbatim into project drawings)

Switchable laminated PDLC smart glass: PRIVASEE® SG-01 (engineering reference LG-01). Build-up 6 + 0.8 + 0.4 + 0.8 + 6 mm tempered low-iron glass with EVA-laminated PDLC inner film (FM-T91-16-N). Compliant with BS EN 14449. CE TTC-26-2703. ISO 9001:2015. To be sealed with TOSSEAL 381 silicone only. Powered by PRIVASEE Power Drive (specify PJ-D family per project requirement; see Power Drive Manual PVS-SGS-MAN-PJD-01).

Quotation procedure

Quotations are issued per project on receipt of a sized glazing schedule, drive-family preference, and substrate selection. Tell us your project, we engineer for it. Send to tech-sales@privasee.uk.

Lead time

Standard lead time 10–15 working days from order confirmation. Expedite available on request, subject to factory schedule. UAE warehouse stock available now; UK launching soon. Online sales add carrier transit time.

Warranty (2-year manufacturer)

2-year manufacturer's warranty against switching failure and lamination defect, subject to installation per the PRIVASEE Smart Glass Install Manual (TEC-07) and maintenance per the PRIVASEE Smart Glass Maintenance Guide (TEC-11b). Use of any silicone other than TOSSEAL 381, or any cleaner other than IPA 70% Antiseptic-Disinfectant, voids the warranty. Refer to QUA-01b for full warranty terms (regional editions GCC + EU).

PRICING POLICY

Smart Glass panels are quote-only — engineered per project. Power Drive families and accessories sell openly with MSRP. Distributor tier pricing (Bronze/Silver/Gold) gated behind partner login.

§F · CUSTOM & SPECIAL CONFIGURATIONS

Bespoke build paths PRIVASEE® engineers alongside the standard SG-01 / LG-01 platform. Each option below is detailed with proper 2D cross-section + 3D isometric XYZ drawing in the Custom Configurations Visual Reference (PVS-SGS-CAT-CONFIGS-VR-01).

Option	Availability	Notes
Coloured Smart Glass	On request	Tinted bronze / grey / blue / custom RAL substrate · or tinted EVA for ambient OFF-state colour
Printed Smart Glass — ceramic frit	On request	Kiln-fired ceramic print on outer pane · architectural-grade · combined with active PDLC
Printed Smart Glass — digital UV-cured	On request	Digital UV-cured print on internal surface · high-resolution · combined with PDLC
DGU Façade Smart Glass	Engineered per project	Laminated PDLC inner + 12-16 mm cavity (argon-fill option) + tempered outer (low-E coating option) · EN 1279
Skylight Smart Glass (overhead)	Engineered per project	Overhead glazing · DGU construction with structural review · low-E + argon for thermal performance
Custom logo / pattern embedding	On request	Logo or pattern integrated within active PDLC area · vector or 300 dpi raster artwork
Asymmetric build-up	On request	Different outer + inner pane thicknesses for structural / aesthetic targets (LG-02 acoustic also)
Jumbo sizing	Engineered per project	Multi-busbar configuration available · pairs with DZ6L for multi-zone control

FOR FULL CAD-GRADE DRAWINGS + PROJECT EXAMPLES

See PRIVASEE® Smart Glass Custom Configurations Visual Reference (PVS-SGS-CAT-CONFIGS-VR-01) — 9-page A4 portrait companion document · 2D engineering cross-section + 3D isometric exploded XYZ view for every custom option · technical descriptions · use cases · compliance · photo placeholders for project examples.

All custom configurations engineered per project. Tell us your project, we engineer for it.

§G · DOCUMENT REFERENCES

Companion documents for SG-01 / LG-01 / LG-02 family

Code	Document	Purpose
PVS-SGS-CAT-SMART-GLASS-MASTER-01	Smart Glass Master Catalogue (this document)	SG-01 / LG-01 platform reference
PVS-SGS-DAT-LG-02	LG-02 Acoustic Detailed Datasheet	Acoustic variant + Rw calculation reference
PVS-SGS-CAT-CONFIGS-VR-01	Custom Configurations Visual Reference	Coloured · Printed · DGU · Skylight · Logo · Asymmetric · Jumbo (CAD drawings)
PVS-SGS-WIR-PJD-SG01-01	Power Drive Connection Schematic	Wiring diagram (embedded on §C.5.1 of this document)
PVS-SGS-MAN-PJD-01	PJ-D Power Drive Manual (Strict)	Default power drive · electrical specification
PVS-SGS-MAN-PJD-HA-01	PJ-D HA Integration Annex	Optional HA actuator wiring patterns (Rev 3.4)
TEC-07	Smart Glass Install Manual	Site installation procedure
TEC-11b	Smart Glass Maintenance Guide	Customer + installer maintenance
QUA-01b	Smart Glass Warranty (GCC + EU editions)	Warranty terms
OPS-02	Method Statement (Lamination)	Factory lamination procedure
OPS-03	Risk Assessment (RAMS)	On-site installation risks
SPEC-01	Architect Spec Sheet (CSI format)	Tender drawing spec text

BRAND DISCIPLINE — locked phrases used throughout this catalogue

LP-001 (size envelope) · LP-002 (service life >80,000 hours · no duty-cycle limitation) · LP-003 (acoustic-rated wording — applies to LG-02 variant only). TOSSEAL 381 = only approved silicone. IPA 70% = only approved cleaner. 34-48 dB Rw range for LG-02 = INTERNAL until independent lab cert · external statement per LP-003 verbatim. Supplier names not published externally per supplier firewall rule.

§H · SUPPLY CHAIN

PRIVASEE® laminates the smart glass build-up under PRIVASEE specification, engineered and quality-controlled in the United Kingdom by SORS GT UK LTD, distributed across the GCC by S O R S Reflective LLC (UAE TM 430322).

UNITED KINGDOM

SORS GT UK LTD

Founded 2025

Smart Glass engineering + quality control HQ

ROLE

Engineering specification · build-up design · ISO 9001:2015 + IATF 16949:2016 quality cycle · factory lamination · QA inspection · warranty issuance · technical documentation

tech-sales@privasee.uk

UNITED ARAB EMIRATES

S O R S Reflective LLC

Trademark UAE TM 430322 · founded 2015

GCC distribution + project delivery HQ

ROLE

GCC warehouse + stock holding · regional sales · project delivery · install partnerships · distributor relationships across UAE / KSA / Kuwait / Bahrain / Qatar / Oman

info@privasee.uk · WhatsApp UAE

QUALITY + COMPLIANCE FOOTPRINT

Engineered + manufactured under:

- ISO 9001:2015 — Quality management (cert 17420Q22138R1S · IAF accredited · audit cycle ongoing)
- IATF 16949:2016 — Automotive-grade manufacturing (cert DB00987 · IATF Reg 0453312)
- BS EN 14449 — Laminated safety glass (compliance basis)
- EN 12150 + EN 12600 1B1 — Tempered glass + pendulum impact safety
- ISO 12543-5 — Laminated glass dimensional tolerance
- CE marking TTC-26-2703 — Construction product conformity (TURKAK)

All certificates available on request — tech-sales@privasee.uk.

§I · ENGINEERING ENQUIRY · HOW TO SPECIFY

What PRIVASEE® engineering needs from the architect / designer

1. Sized glazing schedule (panel-by-panel dimensions, project drawings, tender package)
2. Build preference (SG-01 standard / LG-01 engineering twin / LG-02 acoustic) or performance target
3. Substrate selection (low-iron clear default · tinted bronze, grey, blue · custom RAL match)
4. EVA option (clear standard 0.8 mm / acoustic-grade 0.76 mm / tinted)
5. Power Drive family preference (PJ-D default · DZD for dimming · DZ6L for multi-zone · or engineering recommendation)
6. Custom artwork (if applicable) — vector or 300 dpi raster · minimum line weight noted
7. Application context (interior partition / façade DGU / overhead skylight / curtain wall / residential / hospitality)
8. Project timeline + delivery location (UAE warehouse stock / UK launching / GCC distributors)

Lead time per configuration

Standard SG-01 / LG-01 (UAE warehouse stock)	**Available now**
Engineered configurations (LG-02 acoustic, asymmetric, custom artwork)	**10–15 working days**
Jumbo + multi-busbar zoning	**15–25 working days · engineering review +5–10 days**
DGU façade + skylight + low-E + argon	**20–30 working days · structural review required**
UK warehouse	**Launching soon · pre-orders accepted**

Send project enquiry to:

Email

tech-sales@privasee.uk

For project enquiries with documentation attached

Architect specifier hotline

privaseegroup.com/architects

Submit specifier enquiry form with file upload

WhatsApp: [NEEDS INPUT — UAE WhatsApp number] · For fastest acknowledgement and live conversation

§J · SMART GLASS FAMILY — ONE-PAGE REFERENCE

Quick-scan summary for tender packs and proposal documents

Aspect	SG-01 / LG-01 (this document)	LG-02 Acoustic (separate datasheet)
Physical product	Same — standard EVA laminated PDLC	Different — acoustic-optimised asymmetric
Build-up	6 + 0.8 + 0.4 + 0.8 + 6 mm = 14.0 mm	8 + 0.76 + 0.4 + 0.76 + 6 mm = 15.92 mm asymmetric
EVA grade	PRIVASEE-specified standard 0.8 mm	Acoustic-grade 0.76 mm
Glass orientation	Symmetric 6+6 mm low-iron tempered	Asymmetric 8+6 mm low-iron tempered
VLT (PDLC component)	≥ 75% ON · ≥ 50% OFF	Same
Switching speed	<100 ms ON · <200 ms OFF	Same
Service life	>80,000 hours (LP-002)	Same
Acoustic Rw	Not specified (standard build)	≈ 38–48 dB across configs · per-project Rw verified per LP-003
Compliance	BS EN 14449 · CE TTC-26-2703 · ISO 9001 17420Q22138R1S · IATF 16949 DB00987	Same + EN ISO 717-1 acoustic
Power Drive compatibility	PJ-D · PJ-C · DZD · LD-A · DZ6L · CZ	Same
Sealing	TOSSEAL 381 silicone only	Same
Cleaning	IPA 70% Antiseptic-Disinfectant only	Same
Warranty	2 years standard (5-year uplift under review)	Same
Lead time	10–15 working days standard · UAE stock now	10–15 working days · acoustic asymmetric +2–3 days
Document code	PVS-SGS-CAT-SMART-GLASS-MASTER-01	PVS-SGS-DAT-LG-02
When to send to client	Brand-facing context · sales · residential · hospitality · distributors	When project requires verified acoustic separation
When to send to architect	Default for engineering specification · CAD drawings · tender	When project brief calls for specific Rw target

tech-sales@privasee.uk

Document reference

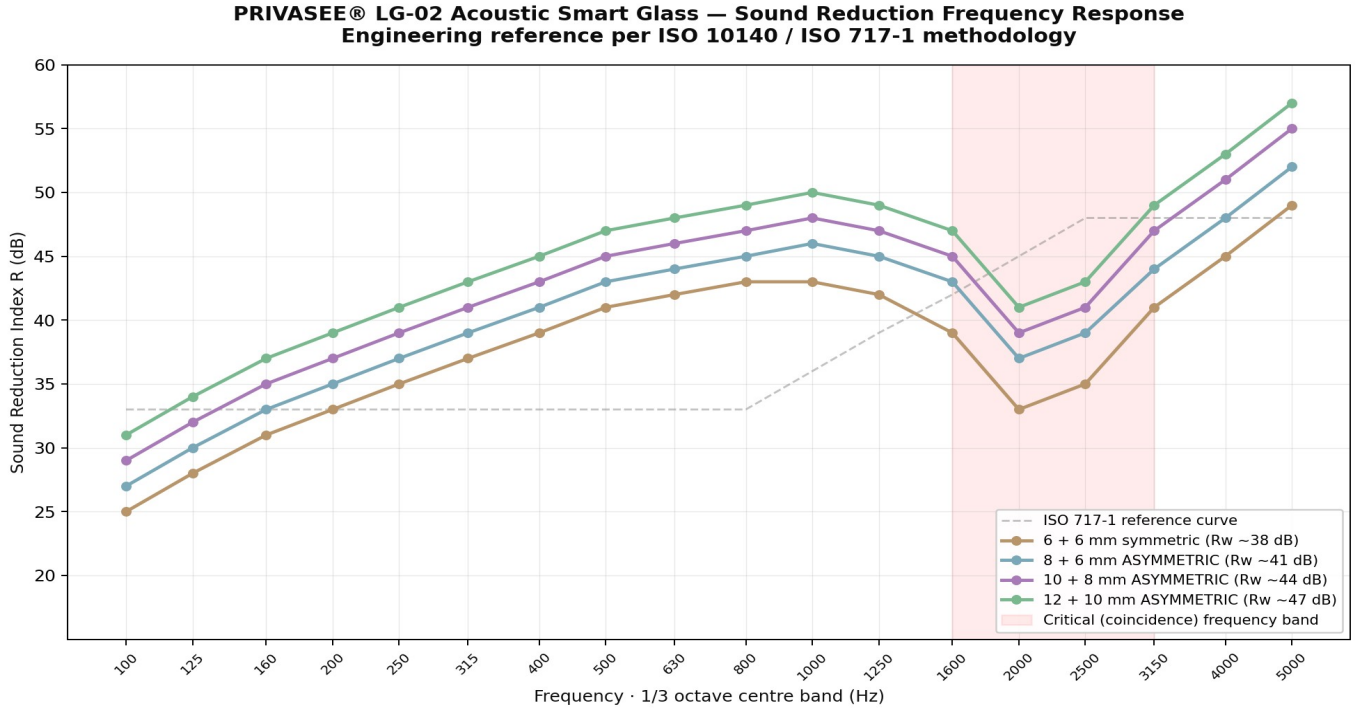
§C.8 · ACOUSTIC PERFORMANCE CALCULATION

Per-configuration sound reduction · ISO 10140 / ISO 717-1 methodology

Engineering Rw values per build configuration

Build-up (mm)	Glass orientation	Total nominal	Calculated Rw	Typical use case
6 + 0.76 + 0.4 + 0.76 + 6 mm	Symmetric	13.92 mm	≈ 35-38 dB	Standard interior partition
8 + 0.76 + 0.4 + 0.76 + 6 mm	Asymmetric	15.92 mm	≈ 38-41 dB	LG-02 standard acoustic build
10 + 0.76 + 0.4 + 0.76 + 8 mm	Asymmetric	19.92 mm	≈ 41-44 dB	Hospitality / hotel partition
12 + 0.76 + 0.4 + 0.76 + 10 mm	Asymmetric	23.92 mm	≈ 44-48 dB	Boardroom / clinical / studio

Sound Reduction Frequency Response (1/3-octave bands per ISO 10140)



Reference curves shown · actual Rw verified per project on independent lab test commission · per LP-003 verbatim acoustic statement

LP-003 · Acoustic statement (verbatim)

Sound reduction performance is configuration-dependent. The Rw values shown above are engineering reference calculations per ISO 10140 / ISO 717-1 methodology. Actual project Rw is verified per independent accredited laboratory test commissioned per project. PRIVASEE® does not warrant a specific Rw without project-specific lab verification.

ENGINEERING AUTHORITY

PRIVASEE® Smart Glass Engineering

Reference standard: ISO 10140-2:2021
Classification standard: ISO 717-1:2020
Date: 2026-05-09 · Rev 1.1 DRAFT

Signed: _____

Engineer name + qualification

METHODOLOGY NOTE

Calculated values reflect industry-standard mass + damping behaviour for laminated tempered glass with acoustic-grade EVA interlayer. PDLC active layer does not materially change acoustic response (mass + damping dominate). Coincidence dip 1600-3150 Hz is normal for laminated glass and is offset by asymmetric build.

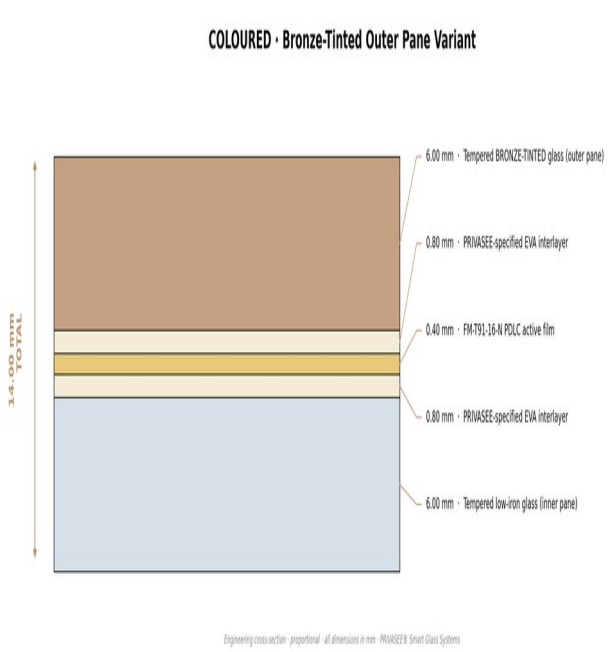
§F.1 · COLOURED SMART GLASS

Bronze-tinted laminated PDLC · architectural privacy + solar attenuation

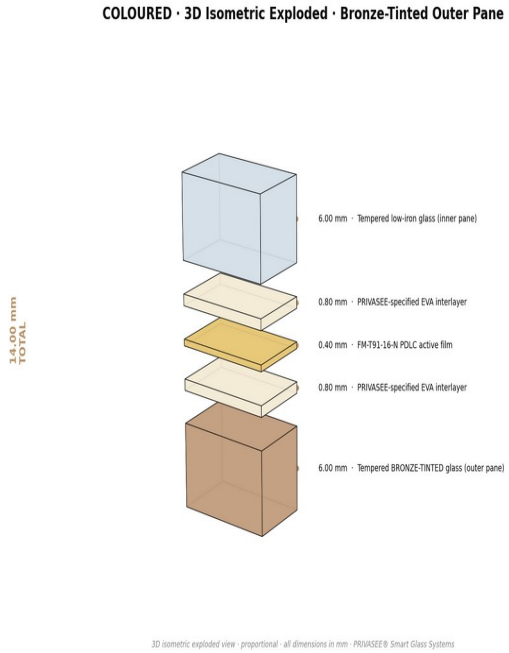
Build-up (mm)

6 mm bronze tempered + 0.8 mm EVA + 0.4 mm PDLC + 0.8 mm EVA + 6 mm clear tempered = 14.0 mm nominal

2D ENGINEERING CROSS-SECTION



3D ISOMETRIC EXPLODED (XYZ view)



ENGINEERING NOTES

Outer pane: bronze-tinted tempered low-iron glass (6 mm) · reduces VLT in OFF state for additional solar control.

Inner pane: clear tempered low-iron glass (6 mm) · maintains true colour rendering on the interior side.

Active layer: FM-T91-16-N PDLC switches with reduced contrast vs clear-on-clear (bronze tint compounds OFF-state opacity).

Compatible drives: PJ-D · PJ-C · DZD · LD-A · DZ6L · CZ · sealing TOSSEAL 381 only.

Other tints available on engineering enquiry (grey, blue, green, custom Pantone-matched ceramic frit on request).

Lead time: standard 10-15 working days (UAE stock now) · tinted substrate +5-7 days if not in stock.

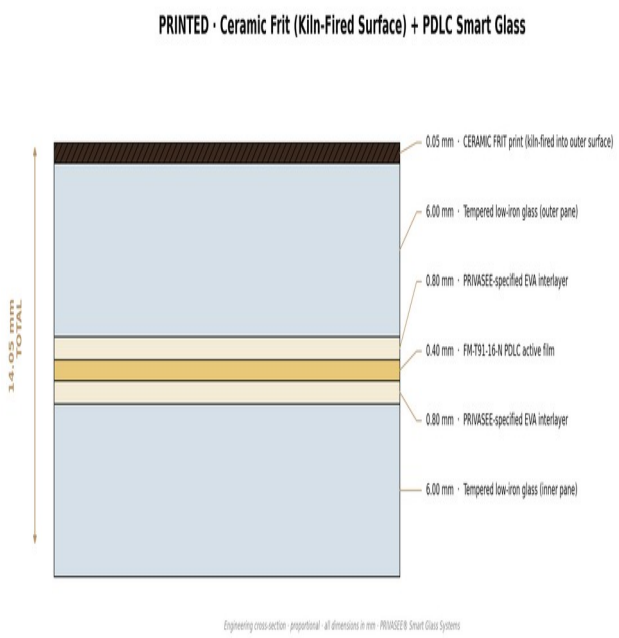
§F.2 · PRINTED SMART GLASS — CERAMIC FRIT

Permanent fired-on ceramic pattern · logo, branding, geometric privacy

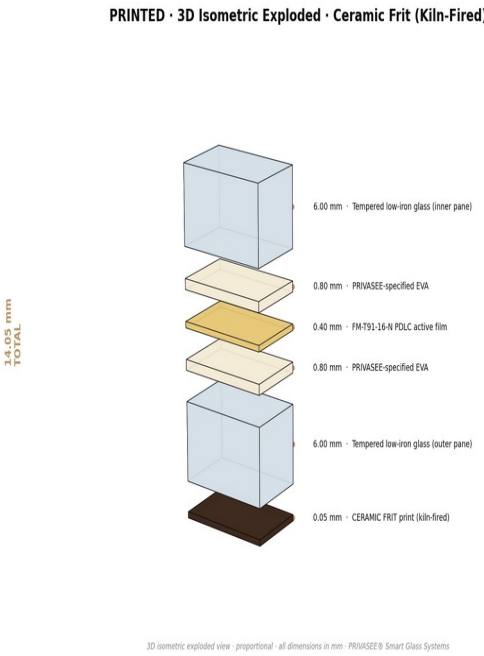
Build-up (mm)

6 mm tempered + ceramic frit print + 0.8 mm EVA + 0.4 mm PDLC + 0.8 mm EVA + 6 mm tempered = 14.0 mm nominal

2D ENGINEERING CROSS-SECTION



3D ISOMETRIC EXPLODED (XYZ view)



ENGINEERING NOTES

Pattern: ceramic frit screen-printed on glass surface, fired into substrate at tempering (permanent, scratch-resistant).

Position: typically inner face of outer pane (Surface 2) · print pattern shows when PDLC is OFF, becomes part of the design when ON.

Coverage: any pattern — logo, dot matrix (privacy gradient), full coverage, geometric · single-colour or multi-pass.

Colour: Pantone-matched on engineering enquiry · most common: white, black, opaque grey, branded corporate colours.

Compatible drives: all 6 power drive families · sealing TOSSEAL 381 only.

Lead time: standard 10-15 working days + 7-10 days for frit print + tempering cycle.

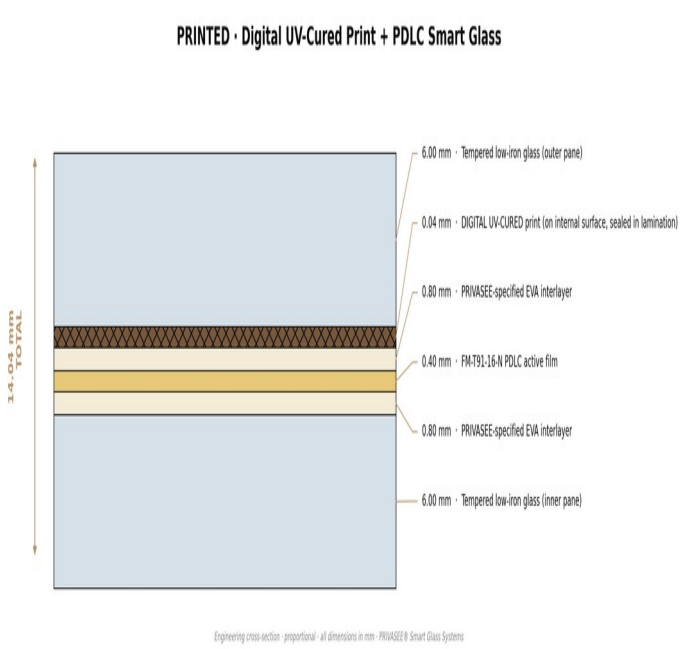
§F.3 · PRINTED SMART GLASS — DIGITAL UV

Photographic-quality direct-to-glass UV print · full colour · short-run capable

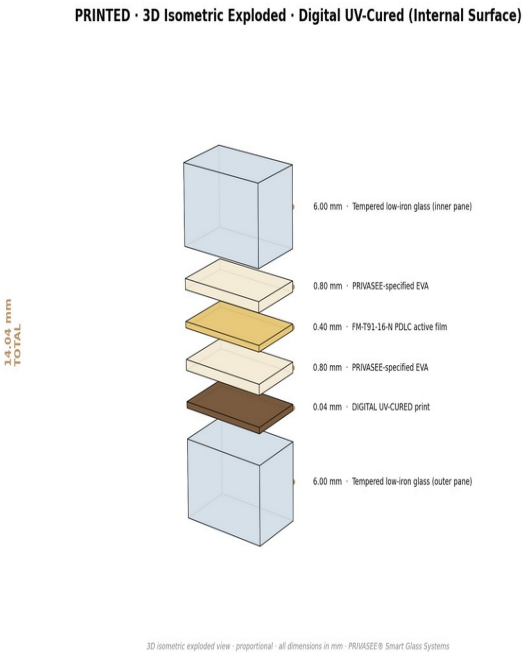
Build-up (mm)

6 mm tempered + UV print + 0.8 mm EVA + 0.4 mm PDLC + 0.8 mm EVA + 6 mm tempered = 14.0 mm nominal

2D ENGINEERING CROSS-SECTION



3D ISOMETRIC EXPLODED (XYZ view)



ENGINEERING NOTES

Pattern: full-colour digital UV print direct to glass surface (CMYK + white) · photographic resolution.

Position: typically inner face of outer pane (Surface 2) · protected from abrasion by lamination stack.

Use cases: artwork, photography, wayfinding, hospitality storytelling, retail brand expression.

Cure: full UV cure pre-lamination · no off-gassing risk inside EVA stack.

Compatible drives: all 6 power drive families · sealing TOSSEAL 381 only.

Lead time: standard 10-15 working days + 5-7 days for UV print and proof approval.

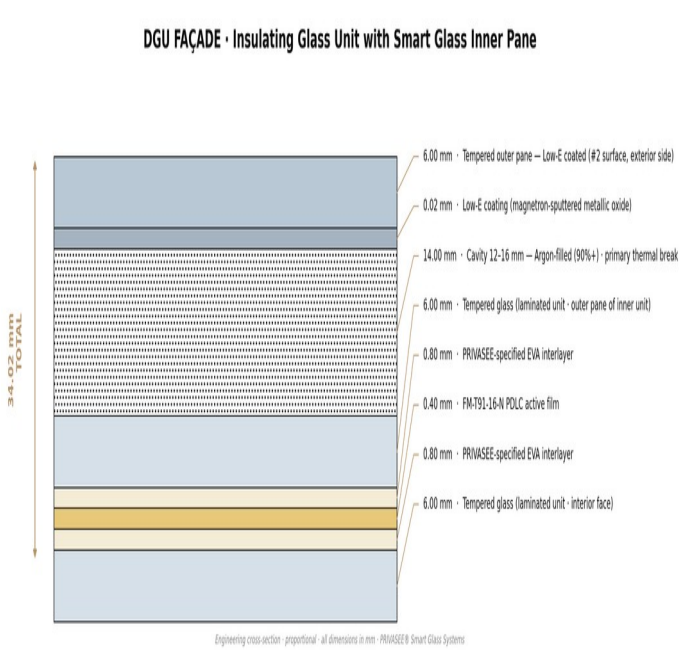
§F.4 · DGU FAÇADE SMART GLASS

Double-glazed unit · laminated PDLC inner + low-E coated outer · façade and curtain wall

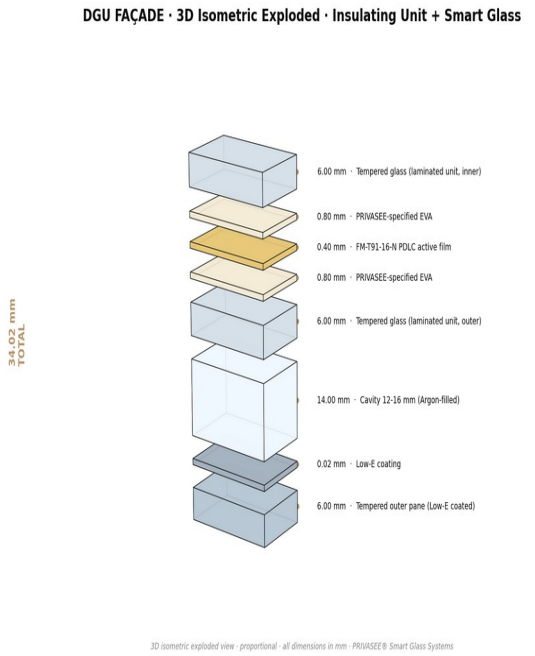
Build-up (mm)

6 mm low-E coated outer + 16 mm argon cavity + 6 mm tempered + 0.8 mm EVA + 0.4 mm PDLC + 0.8 mm EVA + 6 mm tempered = 35.6 mm nominal

2D ENGINEERING CROSS-SECTION



3D ISOMETRIC EXPLODED (XYZ view)



ENGINEERING NOTES

Outer pane: low-iron tempered glass with low-E coating on Surface 2 · solar gain control + thermal insulation.

Cavity: 12-16 mm argon-filled with warm-edge spacer · spec depends on U-value target.

Inner pane: laminated PDLC build (6+0.8+0.4+0.8+6 = 14 mm) on the room side.

Sealing: secondary seal silicone per IGU manufacturer · PRIVASEE supplies the laminated PDLC inner; IGU assembly per project specifier.

Performance: U-value typically 1.0-1.4 W/m²K depending on cavity + low-E spec · SHGC project-specific.

Compatible drives: PJ-D · DZD · DZ6L for multi-zone façade · sealing TOSSEAL 381 only on PDLC inner.

Lead time: standard 10-15 working days for laminated PDLC + IGU assembly time per project specifier.

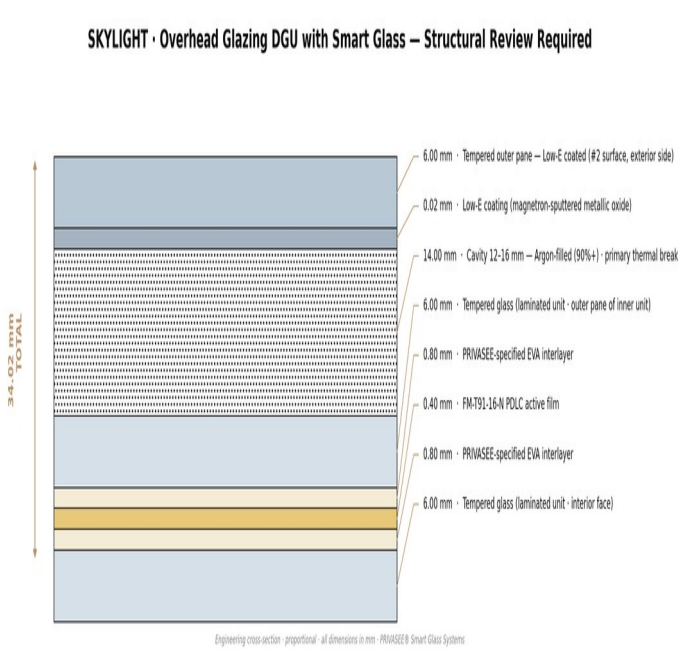
§F.5 · SKYLIGHT SMART GLASS

Overhead horizontal application · DGU + low-E + asymmetric laminated PDLC + safety inner

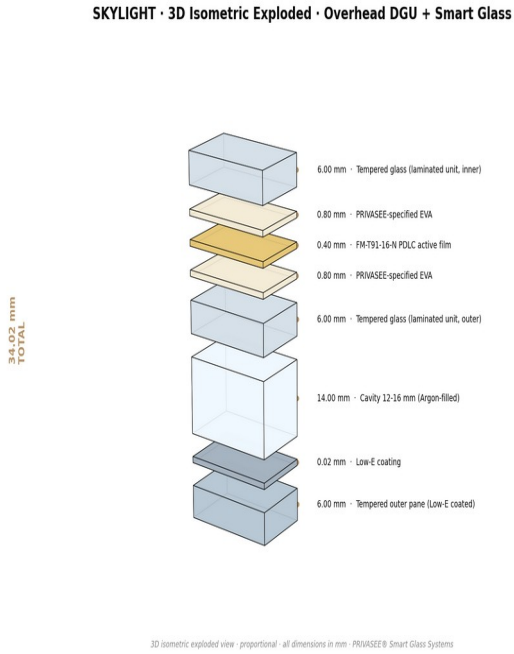
Build-up (mm)

6 mm low-E coated outer + 16 mm argon cavity + 8 mm heat-strengthened + 0.8 mm EVA + 0.4 mm PDLC + 0.8 mm EVA + 6 mm tempered = 37.6 mm nominal

2D ENGINEERING CROSS-SECTION



3D ISOMETRIC EXPLODED (XYZ view)



ENGINEERING NOTES

Application: overhead horizontal glazing · atrium, sunroof, domed roof, conservatory, gallery skylight.

Outer pane: low-iron heat-soaked tempered with low-E · solar control to reduce heat gain through glazed roof.

Inner laminated PDLC: heat-strengthened (HS) outer ply + tempered inner ply · asymmetric for safety and acoustic.

Safety: meets overhead glazing standards (BS 5516 / EN 16612) · inner ply must be tempered · outer can be HS or annealed laminated.

Drainage: edge sealing TOSSEAL 381 + secondary IGU seal · frame must allow condensation drainage path.

Compatible drives: PJ-D for single panel · DZ6L for multi-zone skylight grid · multi-busbar configuration available for jumbo skylights.

Lead time: standard 10-15 working days for laminated PDLC + IGU assembly + structural framing per project.

§K · MAINTENANCE, METHOD STATEMENT & RISK ASSESSMENT

Procedural reference · full documents OPS-02 / OPS-03 / TEC-11b separate

MAINTENANCE & CARE

Approved cleaner	Isopropyl Rubbing Alcohol 70% (Antiseptic-Disinfectant) · sole approved cleaner.
Method	Spray small amount on lint-free microfibre cloth · NEVER spray directly on glass surface.
Pressure	Clean without pressure · wipe in single direction · no scrubbing.
Frequency	Soft dust monthly · deep clean quarterly · visible mark immediately.
Banned cleaners	Ammonia (Windex) · acidic · alkaline · solvent · abrasive · direct-spray.
Approved sealant	TOSSEAL 381 silicone only · other silicones VOID warranty.
Edge inspection	Annual · check for water ingress, sealant integrity, busbar oxidation.
Third-party clean	Cleaning contractor must sign acknowledgement (PRIVASEE Cleaning Contractor Acknowledgement template).
Reference	PVS-SGS-MAINT-SG-01 · TEC-11b Smart Glass Maintenance Guide Rev 1.0.

METHOD STATEMENT + RISK ASSESSMENT

Installation method (abstract)

1. Receive panel · inspect crate for transit damage · verify SKU + serial.
2. Pre-installation electrical: confirm AC mains breaker + RCD per electrician design.
3. Lift with 4-cup vacuum lifter rated to panel weight + 2× safety factor.
4. Set panel into frame with 3 mm setting blocks · maintain 5 mm edge clearance.
5. Apply TOSSEAL 381 perimeter bead · tool to 45° chamfer · cure 24 hr at 20 °C.
6. Wire busbar tails to PJ-D OUTPUT terminals · polarity not critical (AC).
7. Energise · verify ON/OFF switching · record initial VLT measurement.
8. Hand over · photo record · client signs Installation Acceptance Form.

Risk Assessment (top 5 risks)

Glass breakage	L | M | Vacuum lifter + 2-person handling + tempered glass.
Manual handling	L | M | Lifter rated to weight + working at height plan.
Live electrical	L | H | LOTO mains + RCD + qualified electrician sign-off.
Sealant exposure	M | L | TOSSEAL 381 SDS + PPE (gloves, eye).
Cleaner misuse	M | L | Cleaning contractor acknowledgement + IPA 70% only.

Likelihood | Severity | Control measure

Reference: OPS-02 Method Statement (Lamination + Install)

Reference: OPS-03 Risk Assessment Rev 1.0

ON-SITE SIGN-OFF (per project)

Installer name + qualification:	Client representative name:
Date:	Date:
Signature:	Signature:
PRIVASEE® Engineering counter-sign:	Photo handover record reference:

§L · PROJECT APPLICATION USE CASES

Typical PRIVASEE® Smart Glass deployments · photo placeholders for project naming consent

[PHOTO PLACEHOLDER]

Boardroom partition · 1.6 × 2.4 m landscape

Founder swap manually

Boardroom partition

Privacy on demand · video wall blackout · SG-01 standard 14 mm

Typical: 1.6 × 2.4 m landscape

[PHOTO PLACEHOLDER]

Hospital consult room · 1.2 × 2.1 m landscape

Founder swap manually

Hospital consult room

Patient privacy · IPA-cleanable · SG-01 standard 14 mm

Typical: 1.2 × 2.1 m landscape

[PHOTO PLACEHOLDER]

Hotel bathroom · 0.9 × 2.1 m portrait

Founder swap manually

Hotel bathroom

Switchable shower screen · splash-tested seal · SG-01 14 mm

Typical: 0.9 × 2.1 m portrait

[PHOTO PLACEHOLDER]

Boardroom acoustic · 1.8 × 2.6 m landscape

Founder swap manually

Boardroom acoustic

Speech privacy + visual privacy · LG-02 acoustic 16 mm

Typical: 1.8 × 2.6 m landscape

[PHOTO PLACEHOLDER]

Façade curtain wall · 1.5 × 3.0 m portrait

Founder swap manually

Façade curtain wall

Switchable building skin · multi-zone · DGU façade 35.6 mm

Typical: 1.5 × 3.0 m portrait

[PHOTO PLACEHOLDER]

Skylight / atrium · 2.0 × 3.0 m landscape

Founder swap manually

Skylight / atrium

Overhead solar control + privacy · Skylight 37.6 mm · DZ6L zoned

Typical: 2.0 × 3.0 m landscape

Project naming consent required before external use of project photos. Internal proposal use OK.

§M · GLOSSARY

Technical terms used throughout this catalogue and companion documents

PDLC	Polymer-Dispersed Liquid Crystal · active layer that switches between opaque (OFF) and transparent (ON) when AC voltage is applied.
EVA	Ethylene-Vinyl Acetate · thermoplastic interlayer used in PRIVASEE® lamination · cures under heat + vacuum to bond glass + PDLC.
VLT	Visible Light Transmission · percentage of visible light passing through the assembly. PRIVASEE® PDLC: ≥ 75% ON · ≥ 50% OFF.
Rw	Weighted Sound Reduction Index · single-number rating per ISO 717-1 derived from 1/3-octave R measurements per ISO 10140.
Low-E	Low Emissivity coating · thin metallic oxide on glass surface that reflects long-wave IR · reduces heat loss in winter and gain in summer.
DGU	Double-Glazed Unit · two glass panes separated by an argon-filled cavity with warm-edge spacer · used for façade and skylight.
IGU	Insulated Glazing Unit · same as DGU; industry term used interchangeably.
ITO	Indium Tin Oxide · transparent conductive coating on PDLC film that carries the AC switching voltage to the liquid crystal layer.
Busbar	Conductive metal strip bonded to ITO at the panel edge · carries the switching voltage from the power drive into the active layer.
Tempered glass	Heat-strengthened safety glass that breaks into small dice rather than shards · mandatory for human-impact zones per BS 6206.
Heat-strengthened (HS)	Partially toughened glass · ~2× strength of annealed but breaks into larger pieces than tempered · used in laminated overhead glazing.
Low-iron glass	Glass with reduced iron-oxide content · higher VLT and neutral colour vs standard float glass · used to maximise PDLC transparency in ON state.
TOSSEAL 381	PRIVASEE® sole approved silicone for edge sealing · other silicones can interact with PDLC and VOID warranty.
LP-001 / 002 / 003	PRIVASEE® locked phrases · verbatim statements on size envelope (LP-001), service life (LP-002), acoustic (LP-003).
BS EN 14449	Glass in Building — Laminated glass and laminated safety glass · European standard PRIVASEE® laminated PDLC complies with.
CE TTC-26-2703	PRIVASEE® CE Marking certificate reference · confirms EU Construction Products Regulation compliance.
ISO 9001:2015	Quality Management System · PRIVASEE® certificate 17420Q22138R1S · confirms documented production + traceability.
IATF 16949:2016	Automotive Quality Management System · PRIVASEE® certificate DB00987 · confirms supplier discipline used for vehicle Smart Glass.
ISO 10140-2:2021	Acoustics — Laboratory measurement of sound insulation of building elements · reference for Rw calculation methodology.
ISO 717-1:2020	Acoustics — Rating of sound insulation in buildings · reference for converting frequency-band R measurements to single-number Rw.
Setting block	EPDM rubber block placed between glass and frame at install · supports glass weight + maintains edge clearance · typical 3 mm thickness.
Edge clearance	Gap between glass edge and frame rebate · minimum 5 mm to allow thermal expansion + sealant bead application.